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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,691	11/25/2003	Per Skillermark	4147-52	3042

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EXAMINER	
DOAN, KIET M	
ART UNIT	**PAPER NUMBER**
2617	
MAIL DATE	**DELIVERY MODE**
11/29/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/720,691	SKILLERMARK ET AL.	
	Examiner	Art Unit	
	Kiet Doan	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-6,8-11 and 13-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-6,8-11 and 13-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is response to Remarks file on 10/17/2007.

2. Previous Final office action was mail on 07/18/2007 is vacated due to the Remarks on file on10/17/2007. However, the office re-instate Final in this instant office action base on the Remarks and amendment file on 05/04/2007.

Claim Objection

3. Claims 13-15 are objected to because of the following informalities: Examiner believed claims 13-15 dependent to claim 11 as coordinate with claims set. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 6, 8, 11, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zeira et al. (US 2004/0116122 A1) in view of Skold et al. (5,933,768).

Consider **claims 1, 6, 11**. Berens teaches an interference cancellation method for a mobile station in a radio cell of a CDMA cellular system, comprising:

maintaining a list of intracell interferers in the CDMA cellular system to the mobile station;

detecting intercell interferers to the mobile station base on handover-related information determined by the mobile station (Abstract, Paragraphs [0014-0019],

intrercell interferers cancellation and Fig.2A Illustrate the number of neighbor cells/base station such as 12 (1-3) wherein providing downlink signal to mobile 14(1) which read on list of intracell interferers and further Fig.4 described in flow chart). Zeira teaches the limitation of claims as discuss above **but silent on**

adding one or more detected intercell interferers said list; and

performing, based on information associated with the interferers in said list, interference cancellation for all interferers in said list.

In an analogous art, Skold teaches "Receiver apparatus, and associated method, for receiving a receive signal transmitted upon a channel susceptible to interference". Further, **Skold teaches**

detecting intercell interferers to the mobile station base on handover-related information determined by the mobile station;

adding one or more detected intercell interferers said list; and

performing, based on information associated with the interferers in said list, interference cancellation for all interferers in said list (C4, L24-40, C5, L27-43)

Therefore, it would have been obvious at the time that the invention was made that person having ordinary skill in the art to modify Zeira and Skold system, such that maintaining a list of intracell interferers and detecting intercell interferers performing, based on information associated with the interferers in said list, interference cancellation for all interferers in said list to provide means for distinguish and eliminated the interference signal to make better connection.

Consider **claims 3, 8, 13**. Skold teaches the method of claim 1, including the steps of measuring received interfering signal power from intercell interferers using the same frequency band as the mobile station; adding to said list only intercell interferers having a measured received interfering signal power that exceeds a predetermined power level (C5, L28-57).

6. **Claims 4, 9, 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Zeira et al. (US 2004/0116122 A1) in view of Skold et al. (5,933,768) further view of Wong et al. (Pub. No. 2003/0002490).

Consider **claims 4, 9, 14**. Zeira and Skold teach the limitations of claims as discuss **but silent on** the method of claim 1, including the steps of determining the cross-correlation between a desired signal and signals from intercell interferers; adding to said list only intercell interferers having a determined cross-correlation that exceeds a predetermined cross-correlation level.

In an analogous art, Wong teaches "Directed maximum ratio combining methods and system for high data rate traffic". Futher, **Wong teaches the** method of claim 1, including the steps of determining the cross-correlation between a desired signal and signals from intercell interferers; adding to said list only intercell interferers having a determined cross-correlation that exceeds a predetermined cross-correlation level (Abstract, Paragraphs [0016-0020]).

Therefore, it would have been obvious at the time that the invention was made that person having ordinary skill in the art to modify Zeira, Skold and Wong system,

such that determining the cross-correlation between a desired signal and signals from intercell interferers; adding to said list only intercell interferers having a determined cross-correlation that exceeds a predetermined cross-correlation level to provide means for increase the data transmission in wireless communication without interference.

7. **Claims 5, 10, 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Zeira et al. (US 2004/0116122 A1) in view of Skold et al. (5,933,768) and further view of Papasakellariou (US 2004/0032848A1).

Consider **claims 5, 10, 15**. Zeira and Skold teach the limitations of claims as discuss **but silent on** the method of claim 1, including the following steps for each intercell interferer to be included in said list:

determining a channel estimate;

determining a channelization code;

determining a scrambling code;

forwarding the determined channel estimate, channelization code and scrambling code to a joint detection algorithm used by all interferers in said list.

In an analogous art, Papasakellariou teaches "Combined equalizer and spread spectrum interference canceller method and implementation for the downlink of CDMA system". Further, **Papasakellariou teaches** the method of claim 1, including the following steps for each intercell interferer to be included in said list:

determining a channel estimate;

determining a channelization code;

determining a scrambling code;

forwarding the determined channel estimate, channelization code and scrambling code to a joint detection algorithm used by all interferers in said list (Abstract, Paragraphs [0020]).

Therefore, it would have been obvious at the time that the invention was made that person having ordinary skill in the art to modify Zeira, Skold and Papasakellariou system, such that determining a channel estimate; determining a channelization code; determining a scrambling code; forwarding the determined channel estimate, channelization code and scrambling code to a joint detection algorithm used by all interferers in said list to provide means for increase the capacity of transmission data and cost effective implement.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kiet Doan whose telephone number is 571-272-7863. The examiner can normally be reached on 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph H. Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kiet Doan
Patent Examiner

JOSEPH FEILD
SUPERVISORY PATENT EXAMINER